

A process for autothermal catalytic steam reforming of hydrocarbons by passing a reactant mixture of hydrocarbons, oxygen and water or water vapour, heated to a preheating temperature, over a catalyst. The process is operated adiabatically and the catalyst has a coating of a catalyst material on a support structure, the catalyst material containing at least one platinum group metal on an oxidic support material which can be aluminum oxide, silicon dioxide, titanium dioxide or mixed oxides thereof and zeolites.